

STATEMENT OF
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REGARDING
REVIEW OF AGRICULTURAL BIOTECHNOLOGY

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Good morning Chairman Lucas, Ranking Member Holden and Members of the Subcommittee. I would like to thank you for the opportunity to be here today to discuss Syngenta's role in plant biotechnology. As the first company to commercialize a plant biotechnology product, we have a long history with biotechnology and a deep commitment to its future.

Syngenta is a world-leading agribusiness company committed to sustainable agriculture through innovative research and technology. We believe in delivering better food for a better world through outstanding crop solutions, and we take pride in meeting our commitments to our stakeholders. The company is a leader in crop protection, and ranks third in the high-value commercial seeds market. Total sales in 2003 were approximately US\$ 6.6 billion. Syngenta employs some 19,000 people in over 90 countries.

In North America, Syngenta's biotechnology research is conducted primarily at Syngenta Biotechnology Inc., which is located in Research Triangle Park, North Carolina. Our corn and oilseed business in North America, which includes the NK Brand®, is headquartered in Golden Valley, Minnesota. Rogers®, our vegetable seed business for North America is headquartered in Boise, Idaho. These brands market our biotechnology traits.

Adoption of Biotechnology

According to the United States Department of Agriculture's (USDA) Economic Research Service (ERS), the adoption of biotech insect resistant corn has grown from its introduction in 1996 to roughly 30% of all corn grown in the United States in 2003. The ERS also shows that in the United States in 2003 use of herbicide tolerant corn increased to roughly 15% of total corn acres, herbicide tolerant soybeans were a little over 80%, herbicide tolerant cotton was at 60% and insect resistant cotton was utilized on 40% of those acres planted to cotton. These statistics show that farmers in the United States are continuing to adopt this technology at an increasing rate since the introduction of the first biotech plant product in 1996, Syngenta's Event 176 corn.

On a global scale, the International Service for the Acquisition of Agri-biotech Applications (ISAAA) states that total global acres of biotechnology crops were up 15 percent to 167.2 million acres in 2003. These acres are planted in 18 countries with more than 85 percent of resource-poor farmers in the developing world planting biotechnology crops. ISAAA also found that one-third of the global biotech crops were planted in developing countries in 2003.

Syngenta's Research and Technology

Syngenta invests heavily in research and technology to add value to our existing business and to create many more opportunities for future growth. Of our 19,000 employees across the globe, approximately 5,000 work in research, technology and development. We invest \$2 million dollars each day totaling \$727 million dollars per year in research and development. Of the \$727 million, \$146 million is spent annually on biotechnology.

Why such a big investment in research and technology? We believe there is a huge global demand for new agricultural products, including biotechnology, and a business case for investing in technologies to deliver them. We need to develop new products to meet this demand which is being driven by population growth, scarcity of arable land and a consumer need for broader choice and higher quality. Consumers globally also need more affordable food with the opportunity for improved health and nutrition. New research leads us to develop products that meet this need and combat new strains of diseases and pests to help enhance food safety and the security of the food supply.

While we conduct our own private research, we have also donated the results of some important discoveries. In May of this year, we announced our donation of a substantial portion of our *arabidopsis* functional genomics seed collection (*arabidopsis* is considered the "lab rat" of plant research) to the Arabidopsis Biological Resource Center (ABRC) hosted at The Ohio State University, USA. The ABRC will distribute the collection of approximately 48,000 seed lines in collaboration with the Nottingham Arabidopsis Stock Centre in Nottingham, UK. Syngenta is also making the sequence information universally available by placing it into the international gene database GenBank. The collection will be available in late-May 2004. This knowledge will support the development of innovative new agricultural technologies that can help improve food production.

In 2002, Syngenta shared its rice genome sequence research with the International Rice Genome Sequencing Project, a ten-nation public effort with a goal of promoting improvements in rice production. Syngenta's data was used by the IRGSP to accelerate completion of a high quality draft sequence that is available to the global research community through international databases. Genome sequencing, a tool of biotechnology, is being used to create crop improvements that utilize both conventional breeding and transgenic technology.

In 2000, Syngenta began working with the inventor of Golden Rice, Dr. Ingo Potrykus, to form a Humanitarian Board to oversee the development of a vitamin-A enhanced rice product that could be distributed free to farmers in developing countries. Collaborative research underway between Syngenta and the Humanitarian Board is aimed at increasing vitamin-A expression in rice. Large-scale research trials in the United States this year will move

Golden Rice one step closer toward becoming a real option in the fight against malnutrition and related diseases.

Syngenta's Product Pipeline

Syngenta, primarily through the NK® brand, currently sells several corn and oilseed biotechnology products. In field corn, these traits include insect resistance and herbicide tolerance. Our Soybean business includes herbicide tolerance products. We also market an insect resistant sweet corn under the Rogers® brand.

In addition to insect resistance and herbicide tolerance, Syngenta's biotech research and product pipeline includes several exciting projects. Within the next 3-5 years, Syngenta will bring forward amylase corn, Quantum™ phytase enzyme feed supplement, longer-shelf life bananas, fusarium resistant wheat, vegetative insecticidal protein cotton, and second-generation products for insect resistance in corn and cotton. Further down the road, we are managing projects for drought tolerance, biopharma and disease resistance. Today, I would like to focus our testimony on some of our products that are close to commercialization and go beyond traditional input traits.

An exciting product coming through our development pipeline is amylase corn. This is a corn plant genetically modified to express high levels of a novel alpha amylase enzyme which is a critical ingredient in the production of ethanol. Amylase, in general, is an enzyme that has been utilized in ethanol production and other processes for quite some time, is ubiquitous in nature, and is generally recognized as safe (GRAS) by the Food and Drug Administration. In fact, it is even present in human saliva to aid in the process of digestion. This enzyme additive is currently used in the dry grind ethanol industry to accelerate the conversion of the starch in corn to sugar. With our enzyme being located *in* the corn grain, our amylase corn has the potential to significantly improve this process and thus the overall efficiency of ethanol plants, including yield increases, process improvements and possibly reduced ethanol production costs. Syngenta's amylase enzyme is thermostable which allows more efficient utilization of the enzyme during the ethanol production process. Although it will be grown on a relatively small number of acres, Syngenta is seeking full food and feed and export approvals for its amylase corn. We are currently conducting field trials and a pilot study on this product for a possible launch in 2006/2007.

Quantum™ phytase is the brand name of a new, novel enzyme feed supplement that can help livestock producers lower feed costs and deliver greater nutritional benefits to monogastric animals (swine and poultry) in an easy-to-use, more consistent format. This product has received registration in Mexico and Brazil and has been introduced commercially in both countries. US and Canadian approval are anticipated in 2004. One advantage of Quantum™ versus existing products is its inherent thermostability which gives feed producers more flexibility because it can better tolerate heat-treating used in ration production without loss of efficacy. Our research also

indicates that Quantum™ phytase can improve an animal's nutrient utilization, potentially allowing animal producers to reduce overall feed costs. Quantum™ phytase also allows producers to reduce the amount of supplemental phosphorous added to feed resulting in reduced phosphorous in the manure, a potentially significant benefit from an animal management and environmental perspective.

Finally, a product with a more direct benefit to consumers is our extended shelf-life banana. This banana ripens slowly and remains ripe for an average of three to five days longer than conventional bananas, which is an important feature for consumers, and retailers of bananas. This banana also delivers 10-12 days of extra green life which is of value to banana growers and shippers.

As I believe this shows, Syngenta is fully committed to biotechnology and the promise it holds for agriculture including producers, growers, processors, retailers, consumers and others involved in the production of agricultural products.

I would like to thank you again for the opportunity to share with you the many things that Syngenta is doing in plant biotechnology. I would be happy to answer any questions you have at this time.